AP Microeconomics
Exam: Microeconomics
Instructor's Version

1. Perfect Competition and Monopolistic Competition

A. List the features of an industry that has perfect competition, and compare these with the features of an industry that has monopolistic competition. (10 points)

Perfect competition:

1. Large number of firms.
2. No barriers to entry.
3. All firms sell the identical product.
4. Firms must sell at the market price, which is determined by competitive factors.
5. Allocatively and productively efficient.

Monopolistic competition:

1. A large number of firms.
2. It's relatively easy to enter or exit the market.
3. Firms differentiate their products from others in the industry.
4. Firms have some market power based on the number of substitutes available.
5. Allocatively and productively inefficient.

1 point for each.

B. How do firms in an industry that has perfect competition act differently from firms in an industry that has monopolistic competition? (8 points)

Non-price competition: In perfect competition, there's no advantage to non-price competition—such as advertising, because a firm can't differentiate its product from that of other firms. In monopolistic competition, there's product differentiation, which includes non-price competition.

Price-setting power: In a perfect competition, a firm can't affect the market price. In monopolistic competition, each firm has some price-setting power; the number of substitutes is part of what determines a firm's market power.

2 points for each sentence in each part.

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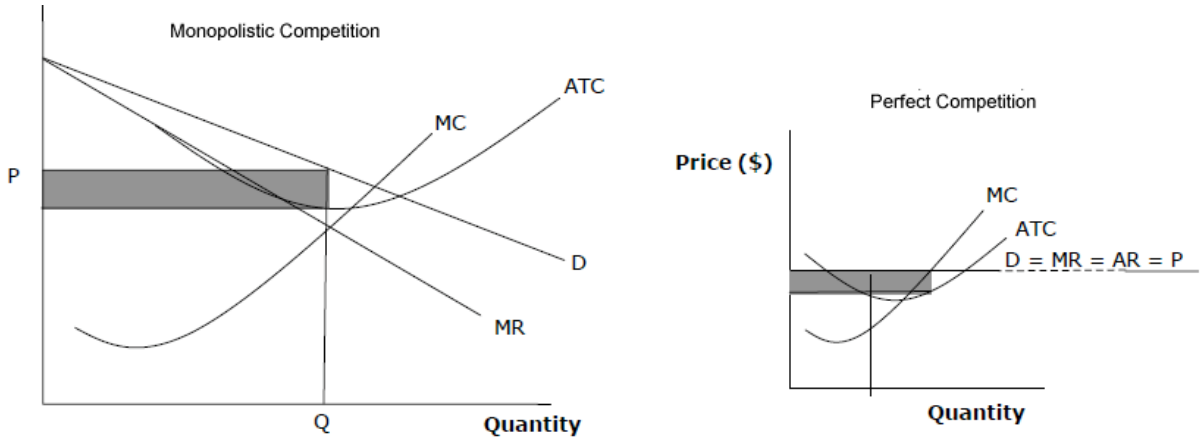
C. Draw the graphs for a perfectly competitive firm and a monopolistically competitive firm operating in the short run. (8 points) **What are the similarities and differences?** (8 points)

Graphs:



Similarity:
In the short run, firms in both industries can make a profit.

Differences:
1. The demand and MR curves in a monopolistic competition are downward sloping; in a perfect competition, the demand and MR curves are horizontal and identical.
2. There is deadweight loss in monopolistic competition (not allocatively efficient) but not in perfect competition (allocatively efficient).

4 points for each graph—subtract 1 point for any missing, inaccurate, or mislabeled portion, up to 4 points for each; 2 points for the similarity; 3 points for each difference.

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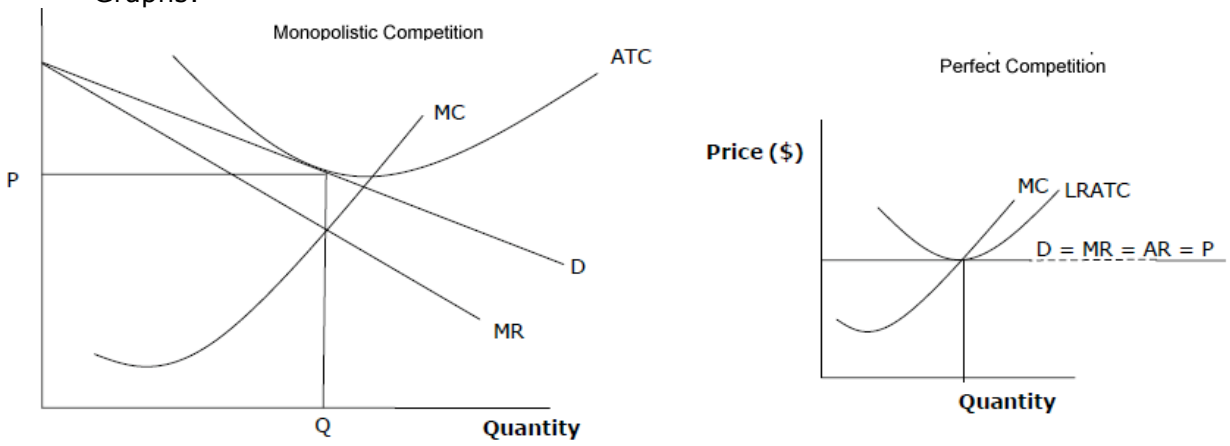
D. Draw the graphs for a perfectly competitive firm and a monopolistically competitive firm operating in the long run. (8 points) **What are the similarities and differences?** (8 points)

Graphs:



Similarity:

In the long run, the lack of barriers to entry means that when firms in either industry are making a profit, other firms will enter until there is zero economic profit.

Differences:

1. In perfect competition, price equals marginal cost, which means that firms produce every unit that the consumer values more than the cost of production for perfectly competitive firms, so this market is allocatively efficient. There is deadweight loss in monopolistic competition, so it's not allocatively efficient.
2. In perfect competition, output is at the minimum of average total cost, so the industry is productively efficient; in monopolistic competition, output is below the minimum of average total cost, so this market is not productively efficient.

4 points for each graph—subtract 1 point for any missing, inaccurate, or mislabeled portion, up to 4 points for each; 2 points for the similarity; 3 points for each difference.

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2. Firm Production, Costs, and Revenue

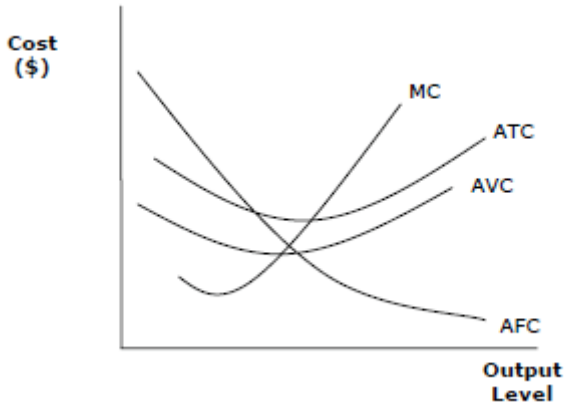
A. How do firms use marginal analysis to analyze production? (5 points)

Using marginal analysis, firms look at the additional output created by an increase of one unit of input. Because of the law of diminishing marginal returns, all firms will eventually reach a point where they earn diminishing returns. Firms will produce where marginal cost (MC) equals marginal return (MR).

2 points for the first two sentences; 1 point for the third sentence.

B. Draw a graph of the different short-run costs faced by a firm. (4 points) **Describe and compare these costs.** (6 points)

Graph:



Description:

1. Marginal cost (MC) is the additional cost incurred when the business produces one more product; this is subject to the law of diminishing marginal returns.
2. Average variable cost (AVC) is the variable cost divided by output; this declines at first and then increases.
3. Average fixed cost (AFC) is the fixed cost divided by output; this declines steadily as output increases.
4. Average total cost (ATC) is the sum of the AFC and AVC; it mirrors the AVC curve.

Comparison: The MC curve crosses the AVC and ATC curves at their minimum or lowest points.

4 points for the graph—subtract 1 point for any missing, inaccurate, or mislabeled portion, up to 4 points; 1 point for each of the descriptions; 2 points for the comparison.

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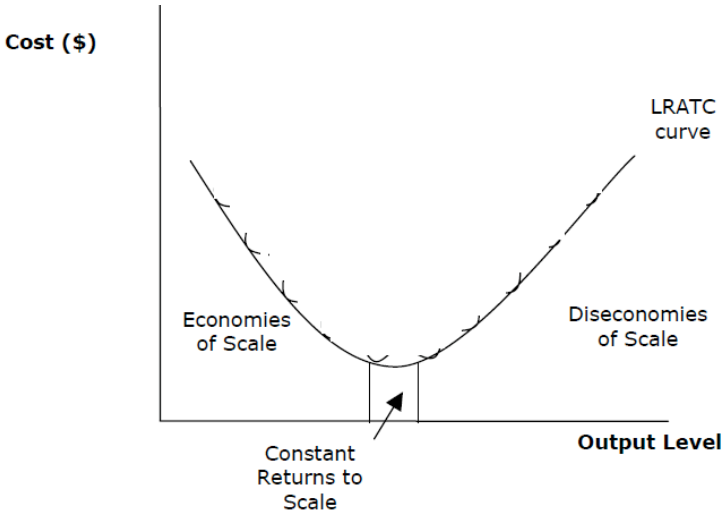
C. Draw a graph depicting economies of scale, constant returns to scale, and diseconomies of scale. (4 points) **Explain the meaning of each.** (6 points)

Graph:



An economy of scale is when a firm's growth leads to lower production costs per unit. Constant Returns to Scale happen when the long-run average cost curve flattens out. A firm experiences a diseconomy of scale when the firm's growth leads to higher production costs per unit.

4 points for the graph—subtract 1 point for any missing or incorrect label on the curve or axes, up to 4 points; 2 points for each sentence in the explanation.

3. Government Action

A. Describe market failures, and explain why market failures lead to government intervention. (5 points)

Description: A market failure is a socially undesirable outcome of a free-market system.

Explanation: Government intervention is necessary to make sure that the cost to society is not greater than the benefit to society.

2 points for the description; 3 points for the explanation.

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B. Describe transfer payments, and explain how this form of government action is supposed to benefit society. (5 points)

Description: Transfer payments are payments made to people based on criteria established by law; often called entitlements, they include things like social security benefits, welfare, unemployment benefits, and so on.

Explanation: By providing people with income and other benefits when they "need" these, it is more likely that they will return to being productive members of society.

2 points for the description; 3 points for the explanation.

C. How does government action correct imperfect information? Why is this necessary in a free-market system? (5 points)

In some cases, gathering information to make a decision is costly, and buyers and sellers do not always have access to this information. The government intervenes by creating standards, providing information, regulating parties in a transaction, and so on. When costly information is kept hidden, transactions that might have benefited people in society don't take place. Government intervention allows transactions to occur that wouldn't necessarily have otherwise occurred, at least not without significant information costs to one or both of the parties in the transaction. These transactions benefit people.

1 point for each sentence.

D. What is the government doing when it provides a public good such as national defense? (5 points)

When the government provides a public good, it is correcting a market failure. These goods are positive externalities. The free market does not provide these goods, which are needed, because they are non-exclusive. Private firms cannot make a profit from them.

1 point for the first sentence; 2 points for the second and third sentences.

E. Why does the government impose fines on firms that create pollution as a byproduct of their production? (5 points)

When the government imposes fines on polluting firms, it is intervening in a situation where there is a negative externality. By imposing the fines, the government is reducing the amount of negative externalities by making sure that polluters pay some of these social costs.

2 points for the first sentence; 3 points for the second sentence.

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